

REMARKS

This communication is a fully and timely response to the non-final office action dated February 23, 2007. By this communication claim 8 has been amended. Claims 1-9 are pending. Reconsideration and allowance of all pending claims are respectfully requested.

Exemplary embodiments as shown in Figures 1-4D, are directed to processing circuitry of a radar system. The circuitry includes a first switch 105, amplifiers 110a-110c, and a second switch 115. The first switch 105 receives an RF pulse and provides the signal for transmission to amplifiers 110a-110c prior to transmission. The amplified signal for transmission is provided from amplifier 110c to the second switch 115. The switch 115 connects amplifier 110c to an antenna 135. A predetermined amount of time after the transmission of the signal, a switch controller 140 controls the first and second switches 105 and 115 for reception of a return signal. In particular, a signal received by the antenna 135 is connected by the second switch 115 to a received processing path. The received processing path provides the received signal to the first switch 105 which connects the received signal to amplifiers 110a-110c. The received signal is amplified by amplifier 110c and provided to the second switch 115. The second switch 115 connects the amplified signal to the receiver processing circuitry for further processing of the received signal. See paragraphs [0011] and [0012].

The aforementioned exemplary embodiment is broadly encompassed by claims 1 and 8. Claim 1 recites an apparatus comprising, among other elements, an AIGaN amplifier connected to an antenna. Claim 8 recites a method for transmission

and reception of signals using a transceiver that includes an antenna, first and second switches, and an AlGaIn amplifier.

As discussed in the prior response, the *Pozgay* patent discloses a microwave transceiver having transmit/receive switches. Each switch includes a common port for connecting to an antenna element, a transmit port, a receive port, and a matched port. The transceiver also includes a gain/phase control unit 22 that provides a control signal to the switches to enable the transmission or reception of RF energy. The *Pozgay* patent also teaches the use of an amplifier 28 that is fabricated with several high electron mobility transistor GaAs based semiconductor processes.

As shown in Applicant's exemplary Figures 4a-4d, Applicant's claimed AlGaIn transistors provide a much lower noise figure at all frequencies when compared to the GaAs transistors employed in conventional systems as disclosed by the *Pozgay* patent, for example. In particular, Applicant's claimed amplifier provides a linear amplification over a range of input power and provides a low relatively stable amount of noise over a desired frequency range. See paragraph [0016]. Given these considerations, it should be readily apparent to one of ordinary skill that because the *Pozgay* patent does not incorporate GaN-based transistors into its design, this reference cannot exhibit the stated advantages of Applicant's claims and thus fails to establish a *prima facie* case of obviousness.

To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Moreover, obviousness "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." ACS Hosp. Sys. V.

Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984).

Applicant respectfully requests that the rejection of independent claims 1 and 8 and their corresponding dependent claims be withdrawn.

Based on at least the foregoing amendments and remarks, Applicant submits that claims 1-9 are allowable and this application is in condition for allowance. Accordingly, Applicant requests favorable examination and consideration of the instant application. In the event any issues remain, the Examiner is invited to contact Applicant's representative identified below.

Respectfully submitted,

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